

CLAIMS

1. Process for preparing a composition in the form of an inverse latex, comprising an oil phase, an aqueous phase, at least one emulsifier of water-in-oil (W/O) type, at least one emulsifier of oil-in-water (O/W) type and from 20% to 75% by weight, mainly from 20% to 60% by weight and more particularly from 30% to 45% by weight, of a branched or vulcanized anionic polyelectrolyte, this process successively comprising:
- a step (a) of preparing an aqueous solution containing the monomers and the optional additives;
 - a step (b) of emulsifying the aqueous phase prepared in step (a), in an organic phase, in the presence of one or more emulsifiers of water-in-oil type;
 - a step (c) of polymerizing the monomers in the aqueous phase, initiated by introducing a free-radical initiator into said phase; and
 - a step (d) of adding one or more emulsifiers of oil-in-water type to the resulting dispersion, at a temperature of less than 50°C, characterized in that:
 - the polymerization reaction in step (c) is carried out at a pH of less than 5.5,
 - none of said emulsifiers belongs to the alkanolamide family,
 - the emulsifiers of the water-in-oil type used consist essentially of sorbitan monooleate or of sorbitan isostearate,
 - said anionic polyelectrolyte is based either on a monomer containing a strong acid function, or on at least one monomer containing a strong acid function copolymerized either with at least one monomer containing a weak acid function or with at least one neutral monomer, and

- from 30% to 80% and preferably 30% to 60%, in molar proportions, of the monomer moieties which the anionic polyelectrolyte comprises contain a strong acid function.

5 2. Process as defined in Claim 1, in which the reaction medium obtained from step (b) is concentrated by distillation before carrying out step (c).

Sub A1
10 3. Process as defined in either of Claims 1 and 2, in which the polymerization reaction is initiated with a redox couple which generates hydrogen sulfite ions (HSO_3^-), such as the cumene hydroperoxide/sodium metabisulfite ($\text{Na}_2\text{S}_2\text{O}_5$) couple or the cumene hydroperoxide/thionyl chloride (SOCl_2) couple, at a temperature of less than or equal to 10°C , if desired, 15 supplemented with a polymerization cointiator, such as azobis(isobutyronitrile) (AIBN).

Sub A2
20 4. Process as defined in one of Claims 1 to 3, characterized in that the anionic polyelectrolyte comprises from 30% to 50% of a monomer comprising a strong acid function and from 70% to 50% either of a monomer comprising a weak acid function or of a neutral monomer.

5. Process as defined in Claim 4, characterized in that the anionic polyelectrolyte comprises, in molar proportions, from 30% to 50% of 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic [lacuna], partially or totally salified in the form of an alkali metal salt, preferably the sodium salt, or the ammonium salt, and from 70% to 50% either of acrylamide.

Sub A3
30 6. Process as defined in one of Claims 1 to 5, characterized in that the anionic polyelectrolyte is vulcanized and/or branched with a diethylenic or polyethylenic compound in a molar proportion, expressed relative to the monomers used, of from 0.005% to 1% and 35 preferably from 0.01% to 0.1%.

7. Process as defined in Claim 6, characterized in that the vulcanizing agent and/or branching agent is

chosen from ethylene glycol methacrylate, sodium diallyloxyacetate, ethylene glycol diacrylate, diallylurea, trimethylolpropane triacrylate and, more particularly, methylenebis(acrylamide).

5 8 Process as defined in one of Claims 1 to 7, characterized in that the oil phase represents from 15% to 40% and preferably from 20% to 25% of its total weight.

10 9. Process as defined in one of Claims 1 to 8, characterized in that the oil phase consists essentially of isohexadecane or of white mineral oil.

15 10. Use of the composition obtained according to the process as defined in one of Claims 1 to 9, to prepare a cosmetic, dermopharmaceutical or pharmaceutical topical composition.

20 11. Cosmetic, dermopharmaceutical or pharmaceutical composition comprising from 0.1% to 10% by weight of an inverse latex obtained according to the process as defined in one of Claims 1 to 9.

12. Composition as defined in Claim 11, in the form of a milk, a lotion, a gel, a cream, a soap, a bubble bath, a balm, a shampoo or a conditioner.